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[For the American Bee Journal.]

Novice.

MR. EDITOR:—Please try and explain to our friend Alley, that we have no malicious purpose in our project of supplying bee-keepers with cheap hives, and that we would take Mr. Alley by the hand with all the pleasure in the world and thank him for the service he had done the bee-keeping community, should he be able to furnish the same articles at less rate than we do.

When ever it shall profit the masses to have us stand aside for some who by means of better facilities, or having more energy and tact to produce good work cheaply, we shall accept our position at once and without the least bit of ill feeling or rivalry.

An opening now presents itself for some good mechanic who is also a bee-keeper (for it seems to us that none but a practical apiarist should attempt hive making,) to make a good servicable one story hive, frames included, for $1.00, having them so made, of course that two such constituted a two story hive etc. We have thought of offering such ourselves, and did not other duties stand in the way, we have no fear that we could not do a pleasant trade, both for ourselves and our customers.

Who among our readers will undertake it? We are ready to aid them in the matter in any way we can.

Individual losses are often times necessary for the public good, and he that is manly, will not hesitate to bear his share when it becomes necessary.

Two years ago we purchased and sold quite a number of the Peabody Extractors, thinking them simple, stronger, and more convenient than our home made ones, but when we brought one into actual use, for real work, they proved too laborious to be tolerable, and notwithstanding we had nearly a hundred dollars invested in them, we have never sold one since, although they have been offered at half price.

Since using the Simplicity hive for queen rearing, etc., we have found work facilitated so much that we have offered our original Langstroth, two story hives (that cost us $2.00; three years ago,) for 50c each, yet they don't sell.

If it wasn't for the danger of spoiling our "nice bugy saw," we would take them apart and make them over, for they contain lots of lumber, and we have wasted a good deal of paint on them, especially the covers to make them tight. The American hives piled up against the fence, we have offered to box hive bee-keepers, at *half the former price each year;*—guess they must be down to 12½c now, but can't remember, for box hives havn't swarmed scarcely for the two past seasons here.

Once more we wish all to consider the following remarks on hives, as applying to the *hives* only and not the individual whose names they bear, for we wish to discuss hives as we would turnips, or any other natural production, and consider *their* merits only. We have been visiting neighboring bee-keepers, in their apiaries of late, and by the way when we get several of them together we have quite a pleasant "home convention," and we don't fear to discuss hives, either as they do in the *N. Y. Journal.*

We almost all use different hives, different feeders, etc., etc., yet we have never quarreled a particle. Mr. Shaw of Chatham Centre, prefers the Langstroth Portico, because he has a feeder fixed in a neat square box in the upper part of it; the roof of the portico is the lid which he raises to replenish it and the feeder is simply a tin box filled with shavings; bees are admitted through a hole near its top; thus you see he can feed at any time, without opening the hive at all, a very convenient device for queen rearers.

Mr. Shaw has the numbers of his hives painted on squares of tin stuffed in between the heads of two tacks not driven quite down, and when a queen is removed to another hive the number is carried with her, and when hives are exchanged, the numbers are readily corrected. All or nearly all of them agree that closed top frames are out of the question, and many of them have given the American hive a good trial as they had purchased "rights," and did not want to have it "wasted." At one place we had a "big laugh" at a hive of Italians

containing but one frame, and that frame was only 2¼ *by* 3 *inches* in dimensions; notwithstanding they had a queen and gathered pollen with as much bustle and importance as some greater colonies. As these queens would fill their hives with eggs in 15 or 20 (or more) minutes, they proposed watching them closely when they become fertile. Such a hive, bees and all might be carried comfortably, one in each pocket, and one would expect that they were the work of a boy, but on the contrary our bee-keeping friend told us they were some of his *father's* experiments If these "wee" hives could only be so managed that the bees would not swarm out, what a fine thing they would be to rear dollar queens in. Cannot some of our friends tell us how? Brood, won't for we tried hives with frames 3 by 4 until we were tired of them some years ago.

Closed top frames are bad because so much time is occupied in closing them without killing bees, and because all combs cannot be secured near enough of a thickness to permit any comb to go any where, closed end frames are still worse because one cannot keep his eye (and smoke) on both ends at once.

A brother novice remarked but yesterday that he had purchased one of Quinby's hives, and had had four more made like it, that although the last four had cost him only about one half the first one, he after one season's trial of it, much regretted that he ever purchased one.

Notwithstanding a stock of Italian bees were purchased of Mr. Quinby, in the hive prepared with all worker combs (except a few inches of drone comb,)and the boxes were also provided with guide comb, the colony like our own, had not given him a pound of honey. Now our friend certainly possesses some skill as an apiarist, for he had secured over 100 lbs. comb honey this season, built in frames in the upper story of a Langstroth hive, and this right beside the Quinby hive.

Again he finds the manner of supporting the combs with the pieces of hoop iron a most unfortunate arrangement for rapid work, but when this is got over, and the frames are all closed up at both ends it seems almost impossible to get the bees out from between the ends of the frames and the ends of the hive, smoking and brushing it is true get them some where, but we finally heartily joined with him in wishing that we could see the author of said hive, open and close it when filled with a rousing colony of hybrids. Lumber cannot be closed together, until the bees are out of the way, whereas the cloth quilts can be closed down over cross hybrids no matter how thick they cover the top of the frames and not a bee is injured, and when a hive is closed, *we* have closed top frames *too.*

On page 254 of May number we read "time is money" and our amazement is increased by the remark in another place that smoke must be used with suspended frames, or where the sides are not movable but that it can be dispensed with in working the *Quinby hive.* As a Quinby hive costs considerable money, it is well to know all its peculiarities before hand, and if there are those who have had a more favorable experience with it we will listen to them with great pleasure. Adair section hives with the top, bottom, and sides closed it seems might be put together before bees are put into it, and then could be pried open, but when it comes to closing them, we should think about *four* "Philadelphia Lawyers" would be required and each one would need a smoking pan of rotten wood, and a sprig of asparagus. By the way Mr. Editor we are hugely pleased with a very light enameled sauce pan (cost 40c, we havn't got any *for sale* yet) that we burn short pieces of dry rotten wood in, hard wood is best. The handle never gets hot and it don't allow fire to drop on our quilts, and when we wish a big smudge in a jiffy "we sprinkle on a little saw dust.

We keep it in a tin box to have it safe and out of the rain, this box is large enough to allow us to remove our fuel from the pan and spread it sufficiently to have it go out. When these charred pieces are gathered up and put into the pan again with a live coal we are ready for work.

With our full blood Italians we seldom need smoke even when they are building queen cells, but we have some hybrids that are such excellent honey gatherers that we can't bear to dismiss them from this pleasant world, but we are trying hard not to raise any more so near black.

Mr. Kellogg speaks of the expense of stoves and so we might as well confess that the one we mentioned was purchased out of a pile of old iron for $2.50 to be used in an experimental "Chickenary." After the poultry fever abated, Mrs. N. remarked that if she had it up in her room she could clean it up so that 'twould do very well to soften the intense cold of last winter, for fear the blue eyed baby might judge this world of ours a colder one than it really is; but when the bees began to die "blue eyes" had to take their chances.

After all friend Kellogg, the bees we fussed with nearly all died eventually, and our advice would be now to have your colonies all so strong they wont need warming; take away their stores and fill them up well with sugar syrup as soon as you receive this, if you haven't done it before, for it should be sealed up well in the combs, and we think you will find them to winter safely almost anywhere, only they will consume much less in a good cellar or bee-house.

By the way Mr. Editor the (bee-keeping) world is getting converted to our "sugar creed" finely. Mr. King says *now* that stores entirely of sugar are *not unsafe.* Mrs. Tupper says

GHTLY BOUND

they are *safer* and Quinby says they will do as well, and 'tis cheaper, and we don't remember of any now but Gallup and Hosmer that hang back, and they say 'tis "old b——" there we promised not to say a word till Gallup got through, and if we have wronged him in any way we beg his pardon. If he and Mr. H. do winter their bees on syrup, they will probably do it because 'tis cheaper, for at the present price of sugar and honey about 4c per lb. can be saved over all expense by using the latter.

Yes, we are afraid of theories and we are afraid of Scientists (not "Scientific" for we know he is "true blue," and we have been several times tempted to think that Adair and a few others knew as little from actual experience of the contents of a bee hive as did our venerable friend Agassis, who laid it down so plain and loftily to us common folks; for he certainly never saw inside a hive himself, nor could he have had a relative or acquaint nce that had, for they would have told him quickly what a—— a—— he was making of himself before a people who held daily and intelligent converse with the whole interior of bee-hives.

Adair sometime ago gave us a long paper intended to demonstrate that bees could live without fresh air, whereas he and his opponents could have saved time by putting some bees in a self sealing fruit jar, and screwing them up tight; then he gave us the Mellipult and showed by scientific drawings that it must be superior to all others. We have wondered if he did not forget to *try it* entirely, or was it the first trial that set him so against extractors. Again he gave us an elaborate paper with figures equal to Hazens, showing the advantage of his discoveries on artificial comb made on wire cloth, with sugar and wax; and we hereby thank you Mr. Editor for your friendly check on our enthusiasm when we introduced the paper to the Cleveland convention. Well *our bees* will build just as much comb when fed on the same sugar without the wax, and our careful experiments with it resulted just about as they did with artificial Fertilization. The theory in Progressive Bee Culture, we at first sight were much taken up with but careful observation and experiment showed it (as it seemed to us, such a mass of folly and humbug that when it cropped out in recommending a patent for a bee-hive we were utterly disgusted. The fact that some periodicals of the "Agassis type" laud Adair's papers as being "true science," only augment the feeling we sometimes have that the whole "Popular Science" world is a humbug, and we have before us now a letter from Prof. E. L. Youmans, admitting that an article in the "*Popular Science Monthly*" of which he is the Editor, was a wretched piece of ignorance and quackery;" yet in the half dozen numbers that have been issued since that one, not a word has been said to caution the public, and enable them to sift truth from error, as the article was inserted carelessly.

All we ask is that Agassis honestly acknowledge his error and that the *Science Monthly* notifies its readers (whether it *pays* or not 'tis *our* due,) that *Electricity* and *Life* was the false teaching of a skillfull quack to sell his humbugery.

We were inclined to class Gallup among the theorists, and to instance his, "Natural Queens, versus forced or artificial ones," as one evidence thereof, yet a careful perusal of the back numbers of this and the other Journals (they were of some value when he wrote for them) would make us hesitate somewhat, for he has given us so much of value, and from his own practical experience, that we really owe him a vote of thanks; he has most truly been the friend of the beginner and the *novice* too.

If he did at times makes positive assertions that things were different in his bee hives from what we found them in ours, we should bear in mind that others have erred in the same way.

In regard to the New Idea theory claimed by himself and Adair, we at the time decided that it was their intention to baffle novices with a heap of unintelligible rigmarole and then to persuade us that it contained "great truths."

If we are alone obtuse we beg their pardon, but should very much like to hear from some who see the *new idea* clearly, and can convey it as clearly to others.

Magua est veritas, et prevalabit.

NOVICE.

P. S. Will Cyula Linswik please excuse the liberty we take in thanking her for her very vivid and lifelike narration of her experience and permit us to suggest that the proper use of the extractor would have obviated all her troubles. Thanks to Greenhorn also, we fear we don't deserve his able defense.

[For the American Bee Journal.]

Remedy for Bee-Stings.

EDITOR OF JOURNAL.—Noticing your account of a "bee-sting" having such a bad effect upon you, I herewith send you my remedy, which I have used for years, and which you can publish for the benefit of the "bee community" if, *upon tricl*, you find it of any value: Get a small, heavy glass phial, with a *ground glass* stopper; have it filled with "Tinc. of Iodine." To use: shake well, then remove stopper, applying what adheres to it to the wound, being careful not to drop any on clothing, as it leaves a bad stain. Half-ounce phial is large enough. J. E. MOORE.

Rochester, Pa., Sept. 12, 1873.

[For the American Bee Journal.]

Information Wanted.

Mr. Editor.—With much pleasure we have read the September number of your journal. It contains much to interest the novice in bee-culture. We are pleased to see some Southern correspondence, and would be pleased to see more in future numbers.

We have a fine country for bees, yet the subject has been greatly neglected. We are advancing slowly. When we read of such enormous yields of honey taken from a single swarm, and even from an ordinary sized apiary, we are disposed to conclude that we are nowhere in bee-culture; or, to say the least of it, we are so far behind the times we fear we shall never catch up. It is no unfrequent thing to find doubting Thomases here, and we must confess that our own faith is sometimes shaken when we hear of hundreds of pounds taken from a single hive. Nevertheless, we have to take it for granted that some of it at least must be true. We see reports of large yields from the North as well as from the South. The amount named in some of these reports is so great that we feel a great anxiety to further acquaint ourselves with some of the facts, thinking perhaps we may be in the dark as to the true system of bee-culture, or it may be in the hives in which the bees are kept. From Louisiana, Mr. Hereford gives a big report of last year. As Mr. H. is a practical man, and an experienced bee-keeper, no one can doubt his assertion.

Again, we read in the September and November numbers of the *North American Bee Journal* of a Miss Emma L., of Gainsville, Ala. Her report set us all a fire on the bee question. Only think of it, that a little orphan girl doing all the work herself, with only one year's experience, should take about forty swarms of bees and increase them to one hundred and three, and take nearly seven thousand pounds of comb honey. Wonderful! But we are assured the figures are correct and there is no exaggeration. Only think of it, a little orphan girl taking in comb honey over six thousand pounds, and no exaggeration in the figures.

Now, Mr. Editor, we are, as honest men, desiring to obtain light, knowledge and facts, pertaining to the culture of the honey bee, and we want nothing but facts, and do not want to be led astray. We are seeking knowledge in bee-culture, upon the most simple and useful plan.

The article alluded to was addressed to one of your correspondents, Mr. Will R. King, of Franklin, Ky. It appears Miss Emma L. obtained her hives from him, and it is barely possible the hive may have had something to do in obtaining this vast amount of honey. If so, we, as bee-keepers, would like to know it; for if true it will immortalize the young lady, and give a reputation to Mr. King's hives that will insure him a fortune.

We confess we feel overdosed, but hope the whole statement is correct, and that evidence of such a character, as will relieve our incredulity, will be promptly laid before us. When Mr. Moon was in our city we interrogated him on the subject. He failed to give us any information about it, further than Mr. King sent the articles to him for publication, and they were in Mr. King's own handwriting.

It is very evident some person is familiar with the whole thing. From the lights before us we must attribute Miss Emma's success to information as to the management of her bees derived from Mr. King, and to the peculiar adaptability of his hive in procuring immense yields of honey. If we are correct in our conclusions, and the poor orphan girl did accomplish what she states she did, the world should know it. On the other hand, if it is a bogus job, gotten up for other purposes, the world *should* and *will* know it. We have been informed by persons living at Gainsville that no such person as Miss Emma L. does now—nor ever did—reside there. But it is possible our informants may be mistaken, and that Miss Emma did at some time reside at that place. We respectfully ask Mr. King to give us the light and information we desire, through the next number of the American Bee Journal, thereby satisfying a doubting people.

F. Pence.

Rome, Ga., Sept. 21, 1873.

[For the American Bee Journal.]

Answer to Charles E. Widener, in August Number.

You must certainly be a "novice" in bee-culture not to detect the trouble; your bees destroyed the comb, because some one else had gone before them, doing the same work, namely: the wax-moth, and in cutting its way in the foundation of the comb, and weaving its silken shroud, it imprisoned the young bees.

A Request.—Will some of those bee-keepers who received rape seed from us be so kind and favor us—as well as bee-keepers in general—with a report of its growth, yield per acre, and its honey-producing qualities. Ours, at this date, is in full bloom, and three times more bees working on it than on buckwheat, which is also in blossom. J. D. Kruschke.

P. S.—We propose building a straw bee-house, viz: build a frame as for a stable, and then pack straw around it sufficient to keep out the cold, with a ventilator through the top. Has any one tried it, and will they please give the result of their experience in the matter.

J. D. K.

I have many hives containing five pecks which swarm yearly, and last (by succession) longer than those that are hived in smaller hives. Purchas.

[Translated from Die Biene.]

Surrogate.

To avoid further questioning and answering I give herewith the method of preparing a bee-food which, as a honey-surrogate, leaves little further to be desired, and which has for many years done me most excellent service. I purchase the honey in vessels containing about one hundred pounds of inferior quality, called food-honey; that is, honey and comb crushed together and sold at a low price; this pound, however, can be costlier to me than if I had purchased the finest honey out of Rhenish-Hesse. The sediments of this hodge-podge makes up two thirds of the entire weight. Honey of the secondary quality, drained from the combs but mixed with bee-bread, is too dear to be purchased for bee food, especially when a far better article can be procured at a much cheaper price. For some years back, I annually procure of this substitute not under one hundred pounds with which to winter my ten or twelve stocks, to which number I shrink my apiary every fall since I have removed to Auerback.

Uniting sugar and water in the proportion of nine pounds of the former to five pounds of the latter, they are heated to the boiling point. After boiling a few minutes, skim off the foam and impurities, remove it from the fire and allow it to cool, and you will have—when you have used loaf-sugar or candy—without further trouble, a syrup which will retain its individuality a year and a day, and be in no danger of crystallizing. I have heretofore used the loaf-sugar, because it was one-fifth cheaper than pure candy; yet candy is, without doubt, just as useful, I having received many communications testifying to the fact, that after being dissolved and boiled in water it will not crystallize in the cells, but be kept pure in them until spring. Perhaps candy owes its excellence to its honey-like taste.

Winter food, costing by the pound thirteen kreuzers, is already much cheaper than honey would be; it can, however, be prepared in a still cheaper manner, by substituting for one-half of the candy, potato-sugar. I formerly used only one-third candy and two-thirds potato-sugar, but this latter is very apt to crystallize, and as an increase of the candy tends to diminish this tendency to crystallize, I now use half-and-half. We then have—

4½ lbs. candy@20 kr. - -	1fl.	30kr.
4½ lbs. potato-sugar@10kr. - -		45kr.
5 lbs. water - - - - -		
14 lbs food for - - - - -	2fl.	15kr.
or one pound for - - -		9¾kr.

Did not sulphuric acid play too great a part in making potato-sugar, there would be no trouble in the union of these two species of sugar; but there is almost always a surplus of the acid remaining in this sugar, and in order to have a harmless food this sulphuric acid must be removed. So much progress has already been made in the manufacture of this species of sugar, that but the one-thousandth part of the sulphuric acid now remains; but as one is never safe in trusting the absence of this acid, it is always best to do all that one can to free the sugar. This is done with unslacked lime, which is slacked and lime-water prepared therefrom A few teaspoonsful of this lime-water poured into the solution of the sugar and water, will unite with any free sulphuric acid the solution may contain, forming sulphate of lime, which sinks to the bottom of the vessel. When the dissolved sugar is on the stove, about to boil, dip into it a piece of blue litmus paper, and if any acid is present the paper will turn red; pour in two teaspoonsful of the lime-water, scattering it as much as possible over the solution, and after the lapse of about one minute try the litmus paper again, and if you find it again becoming red, pour in another teaspoonful of lime-water and try the litmus paper again. Should it still show signs of acid, put in another half teaspoonful of lime-water, and so on until you remove all traces of the acid. After this the impurities rising to the surface should be skimmed off and the vessel removed from the fire, and allowed to rest for 24 or 48 hours, and then be carefully drained off into another vessel, taking care that the sediment is not disturbed. Is it desirable to improve the syrup by adding some loaf-sugar, it should be added in proportion of nine pounds of sugar to five pounds of water, and the whole allowed to come to a boil and boil for a short time.

The syrup thus prepared will have a disposition to crystallize, especially if it be well secured from the air. If it is desired that the bees should winter on this preparation, it should be given to them early in the season so that they could store it in their cells and seal it up. In covered cells it has never become solid for me, but often in unsealed cells it has become crystallized in irregular masses. The more candy or loaf-sugar there is in the food the less the danger of crystallizing. The high price of honey, and even of sugar, especially the more refined grades, compels us to abandon the use of honey either wholly or in part as a winter food, and seek some such substitute as I have mentioned. * * * * As the bees have done badly in 1872, in many localities, many bee-keepers may be glad to come into the possession of the mode of preparing so useful a syrup, and will find it better for feeding purposes than highly priced honey.

E. Klipsteen.

Auerbach, January 9, 1873.

[For the American Bee Journal.]

"Progressive Bee-Culture."—Answer to Mr. Dadant's Criticism.

In the August number of the A. B. JOURNAL is an article by my old friend, C. Dadant, which purports to be "a criticism" on Progressive Bee-Culture, but is not, from the fact that every quotation and statement he makes from the book and dissents from, is misconstrued or misunderstood by him. I do not charge him with intentional perversion, for it may result from my awkwardness and incapacity to express my meaning. I propose, in as brief a manner as possible, to correct him.

1. He pretends to quote what I say regarding the instinct of the bees as contradistinguished from reason, and makes me say "that they act according to the laws which govern matter," etc. There is no such statement on page 2, nor in the book. This is the old tale of the man who vomited living crows, which, when investigated, turned out to be that he only threw up something as black as a crow. What I say on the subject occupies nearly a page in the book, and is too long to quote here; but the only part of it that could convey such an impression is where it is said that the actions of the bees "are all reducible to certain rules, that are as unvarying as the laws governing the mathematical sciences;" in other words, I took the position that the labors of the bees were the result of instinct, not reason. I did not attempt to draw nice distinctions between reason and instinct, nor to define instinct, for our most learned naturalists do not agree where the line is to be drawn between the two, but it is conceded by all of them that when an action is performed, either by man or lower animals, which is to accomplish a certain end, and does so, under circumstances that show that it was done intuitively, and without former experience, and without knowing for what purpose the action was performed, and as often afterwards as it is necessary to the same end, it is repeated in the same way, it is said to be instinctive.

Instinct does not deny to animals mental powers, or even memory, such as Mr. D. instances, (the queen returning to the spot from which she was released, for she will do that as often as repeated), for the instinct that enables the bee to return to her point of departure, or her home, without anything to guide her so far as we can see, is remarkable, and surpasses man's powers or that of reason.

I was surprised that Mr. D. should contend that bees could be educated, and admit that I am too dull to see that he has proven it in the instances he brings forward, although he modestly confines the education of his bees to robbery and stinging. If he has read my articles in late numbers of the A. B. JOURNAL, he will see that I contend that, instincts as well as corporeal structures can be modified, and that the conditions of climate and other surroundings do modify and change them, but this is quite a different thing from education; that is, taking a bee, or even a colony of bees, and learning them anything. A continual effort to excite anger in a colony of bees might make them cross, and if you expose sweets to them they will try to appropriate them, for self-preservation strongly endows them with instincts to defend themselves and to gather means of subsistence.

2. "*Eggs.*—According to Mr. Adair the eggs of bees do not *differ substantially from the seeds of the poppy or the tomato.*"

Mr. Dadant not only attributes this language to me, but he puts it in *italics*. Did I say so? This is another flock of black crows. In speaking of the queen I say: "she has certain organs called ovaries, in which eggs are produced *in a manner not substantially different from the* seeds in the capsules of the poppy, or in the fruit of the tomato," etc., but I proceed to point out how they are fecundated. Now this is quite a difference. He says, I said they did not differ from the seeds, when in reality I said they were *produced in a manner not substantially different;* and the context shows that I stated no such absurdity as he says I did.

3. He quotes: "In a normal colony such eggs always produced worker bees, and, although from the same eggs, queens may be produced, it is only when there is some disarrangement in the proper balance of the hive, and consequently is abnormal."

"Drones are an abnorm-*al*-ity."

The difficulty with Mr. Dadant in his comments in this quotation is, that he is talking about a very different thing from what Progressive Bee-Culture is. He construes it into my saying, that the production of queens and drones "*is an irregular act.*" If he will read it over he will see that I did not say so. I was speaking of the constitution of the colony, and not of the act of the production of drones. Drones are normally productive when there is a necessity for them, and the mating of the sexes is not an irregularity. But in describing a a perfectly balanced colony of bees, I say that in such there is no necessity for any other members than a queen and workers, and, notwithstanding Mr. Dadant's opinion, I speak advisedly when I say, "That so long as the balance is perfect, no drone-comb will be constructed by the bees, nor will any queen-cells be constructed."

I had, the present season, a hive that held sixty frames. The bees were supplied with abundant room, in empty comb and empty frames, with a very prolific queen and not a drone-cell was built, nor a drone produced, although there was drone-comb placed in the hive and inside of the brood-nest. The queen produced bees enough to occupy fifty of the

frames, which were 10x13 inches, inside measurement, and, as each frame occupied 1½ inches, the bees filled nearly 10,000 cubic inches.

There may be a difference in an abnorm-*al*-ity and an abnormity, but as I did not use the former word, and cannot find it in Webster, I suppose it is a mistake of the printer. Webster tells us that "the word normal has now a more specific sense, arising out of its use in science. A thing is normal, or in its normal state, when strictly conformed to those principles of its constitution, which make it what it is. It is abnormal when it departs from those principles." Now, I take the position that a perfectly balanced normal colony of bees remains so until something happens, or there are conditions produced that destroy the balance, and consequently threaten its destruction. The colony is then in an abnormal condition, so far as its perfect working is concerned; and certain effects are produced which *are the normal results* of the derangement. Those conditions and their effects are attempted to be explained in Progressive Bee-Culture; but, it would seem, with poor success, when nearly every statement I make is understood to mean almost the very opposite of what I intended.

The strongest instincts of all animals are those through which they continue their species, and are most strongly developed when extinction is threatened. Some authors even go so far as to say that life is always, and only produced at the expense of life.

Mr. Dadant says: "I cannot conceive how the production of queens and drones is an abnormality or an irregular act. All beings that belong to the animal kingdom are perpetuated by the mating of both sexes."

Does he mean by this to deny the organic origin of the drone? or does he mean to be understood that the production is not irregular in nature, and therefore it is a rule that all male animals are produced without the intervention of the male, as drones are? Would he call the production of drones, from worker eggs, abnormal? When queens lay drone eggs, "from disease or old age," is their production normal? Is an infertile queen in a normal state? Are not all those conditions irregular, and do they not always cause the bees to make an effort to produce queens, and when they have no female eggs do they not often so far err in their instincts as to attempt to produce queens from male eggs?

Mr. Dadant quotes under the head of "General causes of the production of drones," from my little book, but so garbles it as to destroy the sense, and then gives certain facts, which he says "destroys the whole of Mr. Adair's arduous theories." First, he says a queen will not lay drone eggs when there is no drone comb, except in case of "disease or old age." How does he know? He says he uses a hive that has eleven frames in it, and that he only fills eight or nine frames and puts in two division boards, one on each side, leaving two spaces for the young bees to lay around in till they get old enough to go to work. If that is the kind of hive he uses, I deny his right to pass an opinion on the New Idea, for he has no means of knowing whether it is true or false. He furnishes this with worker comb, and as he don't find drones produced in it, except when his queens get old or sick, therefore they don't lay drone eggs. Does he know that she does not lay them, or do the bees refuse to nurse them and destroy them? His second fact is, that when he puts in drone comb, even as early as March, the queens lay in them. I should think they would, for such a hive is never in a normal balanced condition when it has a prolific queen in it; and, instead of disproving my theory, is a strong proof of its correctness, for the very theory he is denying insists that such a result would follow.

He says: "We see, daily, colonies composed of queen and workers, and therefore *well balanced* and normal, raising drones and young queens, and swarming."

And again, "By what Mr. Adair says, it would appear that as long as a hive has no drones it is *well balanced*, and will raise neither drone nor queen cells. Therefore, a hive that never had drones could never have any, and could never swarm."

I hardly know what to say in answer to these two paragraphs. I do not like to say harsh things, and will not therefore accuse my old friend of willful perversion. It must be that my incapacity to express myself clearly, has again misled him. After occupying ten or twelve closely printed pages in trying to tell what I considered a perfectly balanced normal colony of bees, I thought I had given a slight glimmering of what I intended to say; but find that I have conveyed a meaning entirely at variance therewith. I said nothing of the sort. I said anything else than "that as long as a hive has no drones it is *well balanced*." I stated so many conditions as necessary to a well balanced hive that I cannot repeat them here, but at the risk of being tedious I will make a quotation:

"With our present knowledge of the habits and the instincts of the bee, we admit that such perfection is seldom reached in the management of bees, but we are sanguine in the belief that it can be attained. To do so will require that we should be thoroughly, intimately, and correctly informed of the natural laws governing all the operations of the hive and of the offices performed by all its inmates. We have spoken of workers collectively, as if they were all alike in capacity, when the fact is that they are naturally divided into classes, each class adapted to certain work, which the others are as incapable of performing as if they were different insects; and when we speak of a *per-*

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fectly balanced colony, we mean one in which there is the proper proportion of each class to do all the work necessary in its departments, at the proper time to chime in and harmonize with the labors of the others. A natural, prime swarm is, as a rule, a perfect colony; and if furnished with a hive that is perfectly adapted to their wants, and properly managed, will continue so. In order, therefore, to see in what perfection consists, it is necessary that we consider the bees from the swarm to the time that the comb system is completed, and through all their works."

If this and the next six pages that follow, which of course cannot be inserted here, simply convey the idea that a queen and workers are all that is necessary to a *perfectly balanced* colony of bees, I will quit writing. When I said that such a colony "consisted only of a queen and workers," it strikes me I did not say, "that as long as a hive has no drones it is *well balanced*," but may be I did.

I would like to notice some other points in Mr. Dadant's article, but I am already trespassing on space that could be better occupied. I will, however, notice one unkindness as I consider it; that is his charge that I claim that my "hive alone produces the certainty of non-swarming," etc. I say "unkindness," because in a conspicuous place, on the second page of cover, I say that: "In order to enable all to secure the benefits of the New Idea Hive, I will furnish them with Langstroth hives, or those of similar construction, arranged for frames," etc.

The theory is a general one, and was never claimed to apply to my hive alone; besides which, when Mr. Argo applied to me early in the season for directions to apply it to the Langstroth hive, I sent him directions; and, to save further lengthy correspondence, requested him to send it to the JOURNAL for publication, which he did, and it was published in full; and I get numerous letters from persons who have changed their hives to adapt it to the "New Idea."

Mr. Dadant closes his article by an unfair criticism on a hive I sent him several years ago (1869), and conveys the impression that it is the "New Idea" hive. Such is not the case; but, as think that your space can be better occupied, I will not discuss the merits of the section hive, except to say that he has never given it sufficient trial to entitle his opinion to any weight, and as for crushing bees it is less liable to that than any other frame hive; and, if it happens, it is through sheer carelessness or awkwardness. But he is not open to conviction, as he says:

"As for me I will be contented with the hive that I have used for eight years." So was that pattern of an old fogy, that tradition tells us about, "contented" with the stone in one end of his bag to balance the grain in the other, because he had not only used it as long as Mr. D. has his hive, but his "daddy" did it before him, and its use was hallowed by the sanctity of antiquarian worship.

D. L. ADAIR.

Hawesville, Ky., Aug. 10, 1873.

[For the American Bee Journal.]

The Honey Bee.

[CONTINUED.]

Treatment of the Queen by her Subjects.—It should be observed, that the little glass hive in which the queen was placed, contained only about a fifth part of the original swarm, which had been divided on a Saturday. On Sunday the bees seemed discouraged, went out into the fields and came back, bringing with them very little material. On Monday they labored more assiduously, as, in six hours, they had formed a piece of comb containing sixteen or eighteen cells; but at two o'clock of the same day they quitted the hive. Reaumur, however, returned them. On Tuesday they remained very quiet; and, although the sun was warm, and the time of the day (about 11), that at which the hive presents the busiest scene, they were resting in groups. All this seemed to prove that they were not contented. They had a queen and the materials for building, and yet not a cell was constructed. In a few minutes, while Reaumur was pondering on the motives of these insects, or rather on the obstacles that contravened their instincts, the queen was seen on the floor of the hive; a dozen workers instantly came buzzing around her, the hum increased, and the whole hive appeared shortly in a state of great agitation. Little divisions were formed, one or two workers going, were followed by the queen and the whole left the hive for the second time.

According to their usual custom, they flew round and round in circles, and at last settled in a solid mass on one of the branches of a neighboring tree. As soon as Reaumur saw this he hurried to look for the queen, and found her; not in this mass, but quietly resting on a leaf and at a little distance from it, "apparently," says he, "as if aware that it would be inconvenient to bear the whole weight of her subjects." It seemed that she had but to indicate the spot near which they were to settle, by hovering around to bring them thither.

Thinking that the disproportion between the number of bees and the size of the hive might have been the cause of their disgust, Reaumur, this time, contrived to inclose only four or five hundred along with the queen. But this step proved unfortunate. The little colony remained in the greatest agitation, and altogether neglected the queen, who wandered up and down quite unattended. The rest, however, which had not been inclosed with the queen, did not imitate the example of their fellow-captives, but soon found her out; and, not

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being able to obtain admission, covered the hive in a mass. Having got rid of these, he was desirous of trying whether those which, three days before the original division of the swarm had been separated from the queen, would recognize her after this lapse of time. Having placed the little glass hive near the box in which these had been inclosed, in less than a quarter of an hour they seemed to have discovered that a queen was in captivity, and scarcely a bee remained in the box, but all came and covered the glass hive. At first, Reaumur attributed this effect to the attraction of the constant noise kept up by the agitation of the bees within the glass hive, but when this hive was placed, under the same circumstances near another which had a queen, none of the workers of the latter hive seemed disposed to quit their queen to attend the stranger however hard her lot. It would appear, then, that the bees, which were without a queen, knew where there was one; but those which had one paid no attention to another.

On Wednesday, however, the bees left the glass hive for the third time, but after a short time returned; which encouraged him to hope that they would remain permanently. The next day the workers labored in earnest, and constructed pieces of comb. But the situation of the hive being too hot, they left for the fourth time; fled to a large hive in the neighborhood, and were massacred by its bees.

Such was the end of this portion of the original swarm. That of the other was not less tragical. It has been already observed, that when Reaumur divided the swarm the largest portion was queenless; these he placed in a commodious hive, leaving the entrance open. The number of those that went into the fields was very limited, and these returned unladen. Although the days were fine, the number of workers was very great, the hive such as they liked, for they evinced no symptom of a wish to quit it, still not a cell was made; while, during the same space of time, the bees of the little glass hive, although they had but a slender portion of workers, contrived to make two little combs. Thus it would appear that their instincts hinge on the love of offspring. Those bees which possessed a queen capable of giving birth to thousands of young, prepared cells for their dwelling, and honey for their food, and this they effected under every disadvantage. Those, on the contrary, which were without a queen, and, therefore, without the hope of a numerous progeny, were content to live from day to day. Their numbers daily diminished, so at the end of three weeks scarcely a thousand remained, and the whole of these were one morning found dead at the bottom of the hive. This was not a solitary experiment. Reaumur and others have repeated it too often to require further proof—that the loss of the queen destroys all motive to exertion, so that she may truly be called the soul of the hive. To ascertain whether this feeling of devotion was confined to the particular queen which gave them birth, Reaumur made an experiment.

He shut up a queen taken from a hive, with some workers taken from another, so that both were strangers to each other. "I was curious," he says, "to note how she would be received, and I saw her received like 'a queen.' Bees to the number of a dozen or more surrounded her and treated her with great honor. It happened that the box in which she had been inclosed was filled with dust, in consequence of which, when introduced among the workers, she was literally gray. The first care of the bees was to clean their future sovereign. For more than two hours she remained at the bottom of the hive, surrounded and sometimes covered by them, while they licked her on all sides. For more than two hours I witnessed this interesting scene."

For a day or two, Reaumur kept them close prisoners; but subsequently he placed them near the spot from which they had been taken and let them fly. He found, however, that, though they went out, they returned to their new hive and queen, and constructed cells for her accommodation.

This fact removed Reaumur's doubt. These bees had been taken from a populous hive, well stored, and yet they completely forgot their old companions and their birth-place; put up with the inconveniences of a small hive, and undertook to labor for a stranger. But, although thus prodigal of their affections to any queen, still a number of hours must elapse before they will adopt a stranger.

It appears, however, that the workers do not at all times pay the same attention to their queen; while she continues in a state of infecundity she seems for the most part an object of indifference to them, but as soon as this event takes place she is treated with the honor due to the future mother of a populous colony.

"I have," says Huber, "seen workers bestow every attention on a queen, though sterile; and after her death treat the dead body as they had treated herself when alive, and long prefer it, though inanimate, to the most prolific queens I offered them."

These humble creatures cherish their queen, feed her, and provide for her wants. They live only in her life, and die when she is taken away. Her absence deprives them of no organ, paralyzes no limb, yet in every case they neglect all their duties for twenty-four hours, and receive no strange queen before the expiration of that time.

"We are only sure of one principal of action," says Reaumur, "among bees—the love for their queen, or rather the numerous posterity to which she is to give birth. Each bee seems to

be actuated either by a sensation which has in view the welfare of all, or by the love of posterity. Whether they construct cells or gather a harvest of honey, it is never directly for themselves. This may appear somewhat paradoxical to those who have remarked that during the winter they consumed what they stored the previous summer. But the experiments just detailed show, that the moment they lose the hope of a numerous progeny, they cease to store the food which is necessary for their own preservation. "The love of offspring appears, therefore, to be the all-moving principle." Swammerdam was of this opinion; and all who study the habits of the bee attentively must agree with him. RENEDIUR.

[TO BE CONTINUED.]

[For the American Bee Journal.]

Natural vs. Artificial Swarms.

In approaching this distinction we feel that we are treading on delicate ground, we have no new theory to advocate, no new project to suggest, but in answer to a call from one of your correspondents, that we who have had experience should instruct those later engaged in the science, (I cannot forget the fact that bee-keeping is a science,) I have concluded to give my practice in the past, and I might preface by saying that it has always been successful, at least to such a degree that I greatly prefer an artificial to a natural swarm.

I would like to impress upon the mind of our fellow bee-keepers the great importance in this branch of our science of "making haste slowly." Has not Mr. Hosmer misguided our bee-keeping public? I fear so at least. But to the question. My practice for years past is this, (and unless more fully educated or better advised I shall still adhere to it,) that when my stocks have sufficient stores to cast natural swarms, I take from them three or five combs furnished with *brood and eggs*, place them in one side of a new hive, carefully brushing off every bee, then along with them I take two or three empty brood combs, I then go to another strong stock (I always operate about mid-day) and by feeding them, or blowing smoke among them, induce them to fly in great numbers, and when they are in full flight I remove their hive to a new location, and place in its stead the new hive containing the brood and empty combs. This is sufficient to secure a new and healthy swarm. But to those who are so fortunate as to be able to breed young queens, or to get early queen cells, I have another word to say. Before you place the new hive and brood on the stand of the old colony take a sealed queen cell and place it well among the brood combs, or better still, take a young *fertile* queen and enclose her in a wire cage between two of the brood combs, leave her there for forty-eight hours (I insist upon this length of time except in the swarming season) and then liberate her among the bees. This course will insure a strong stock, and from such stocks *early made and properly tended*, the apiarian may justly expect his greatest returns of honey, this at least is my past experience.

It will be observed at a glance that the number of frames written of do not fill the hive; this is just what we want. A division board has been insisted upon, this is good enough in its place, but permit me to suggest what I have found better suited to my purpose. Take a piece of heavy sheeting the exact length of the frames, and with this enclose the five frames, (this we deem sufficient for a young swarm,) and after the sheeting is well placed, take an empty frame and cover it carefully with the same sheeting, which place close to the inclosure. Then close the hive and permit the bees to work for three or four days, and if ready, introduce more combs or empty frames *between full combs*. In starting a new swarm always be careful to elevate the *rear end of the hive*, when new combs are to be built in empty frames, this in most cases insures straight combs.

In this connection, and nearly allied to it is another matter upon which it might not be amiss to say a word; that is the safe introduction of queens. This year as early as the middle of May I safely introduced four queens. My experience in this case is easy both of explanation and practice. I take a fertilized queen, place her in a wire cage the end of which is stopped with honey and pollen *taken from the hive I wish to put her into*, I place this cage at the top of the frames between two of the strongest brood combs, I leave the cage in this position for forty-eight hours and at the end of this time if the bees have not already released her, I proceed as follows: Take a brood comb *covered* with bees, set it on the outside of the hive, remove the wax from the end of the queen cage and liberate her among the bees. Should they manifest any dislike to her, (which is not at all likely,) they will cluster upon and try to smother her, in this extreme case, have ready a basin of water, throw the cluster into it and you can easily catch and cage the queen, this precaution will scarcely be necessary, if our instructions are observed. "B."

Beaver, June 5, 1873.

HOWEVER let your hives be rather too little, than too, great, for such are hurtful to the increase and prosperity of bees. If the hives be too great, the bees will be more lazy, working uncomfortably, because they dispair ever to finish and furnish their house; but yet if there be a competent number of bees, they will work industriously (though the vacinity be large) and complete as much with combs as shall be sufficient for them. But an over large hive is prejudicial to their swarming.

PURCHAS.

[Translated from the Bienenzeitung.]

Sugar Syrup for the Bees.

For over twelve years—1861, 1873—have I employed in my experiments, and in fitting out my bees for winter, more than 400 leters of sugar syrup, and always with the best results. A mixture of 7 parts sugar, 4 parts water reduced to 2 parts sugar and 1 part water, gives a syrup for the bees, as healthy, as accepted and as nourishing as the best honey. By the phrase "as nourishing," must be understood that a certain quantity of this juice will go as far as the same quantity of honey, in supporting a colony.

The art of preparing this syrup is very simple. You pour into a kettle 4 liters of water and 7 kilos of sugar, broken into pieces of from 100—200 grammes ; you place the kettle over a moderate fire, then you stir the sugar and crush the hardest lumps with a spatula; when the sugar is wholly dissolved, which takes place in from 30 to 40 minutes, remove the kettle from the fire, and when the mixture cools, you pour the syrup into vessels to be preserved for use. In this manner it can be preserved for more than six months.

While this mixture remained over the fire, it lost one portion of its water and is thus reduced to about 2 parts sugar and 1 part water, in my judgment the best proportions.

Waste of nourishment. Few bee-keepers are aware of what takes place, in a stock, which is being fed. They believe that the bees store up the food given them. But it is not so. Let a stock be weighed before it is fed, and then after it has been fed, and he will find the waste or loss of 1-5—1-6 of the food. I have made many experiments concerning this. I will briefly state one of them.

1st EXPERIMENT. 1860, August 10, 7 o'clock, in the evening, I weighed most carefully six stocks, of which 3 were to be fed, the other three not to be fed, as they were to serve as a standard of comparison. After weighing I gave three stocks equal quantities of honey, 11,750 grammes, free from any mixture with water.

On the 14th of August, at 8 o'clock, three stocks were weighed again. The three stocks which had received the 11,750 grammes honey and used it, showed a loss of 2,315 grammes, i. e. 772 grammes to each hive; the three stocks which were not fed, had lost 428 grammes i. e., only 142 grammes to the hive. The three hives had between their first and second weighing lost 1-5 of their furnished nourishment.

2d EXPERIMENT. 1869, August 2, 10 o'clock, A. M., I weighed 4 stocks marked A B C D. The stocks A and B were to be fed, while C and D were to receive no food. We will first describe the behavior of stock A. On the day on which it was weighed, at 6 o'clock p. m., it received 1980 grammes sugar syrup; on the following day, 3d of August, at 5 o'clock, A. M., it received 2,035 grammes of the same syrup, and on the same day at 11 o'clock, it received 2,045 grammes, in all 6,060 grammes. On the 4th of August, at 5 o'clock A. M. when weighed it showed a loss 945 grammes in two days.

The result of the experiments of stock B are as follows:—On the 2d of August, 6 o'clock, P. M., I gave it 2,045 grammes sugar syrup, on the following day, 3d of August, 5 o'clock, A. M., I gave it another 2,110 grammes, in all 4,155 grammes. On the 4th of August, 5 o'clock, A. M., the weighing showed a loss of 775 grammes.

The two remaining stocks C and D, also weighed on the 4th of August, 5 o'clock, P. M., showed a loss of only 170 gr., 40 for C, and 130 for D.

Another experiment: 1860, June 27, 4 o'clock, A. M., a stock weighed 11,510 grammes; on the same day, at 8 o'clock, P. M., it weighed 13,050; gr.; on the following day, June 28, 4 o'clock, A. M., it weighed only 12,690 gr., showing a loss of 360 grammes over night. I could give many such examples, showing the loss over night after a very productive day.

REMARKS. The storing of the food is always accompanied with more or less confusion, in proportion to the eagerness with which it is sought. If this confusion does not make itself apparent you may safely judge that the bees are taking little or no food. And to this confusion may be attributed the waste above mentioned. This loss is occasioned by the evaporation, which takes place more rapidly owing to this tussle and confusion than it would in a state of rest.

It is well known that when the bees during the day, carry in much honey, they set up a greater humming during the night, than they otherwise do. To this humming or fanning must be attributed this waste. Evident it is that the bees in a state of rest, do not lose in their weight during the night.

The stock A I gave, in 17 hours, 6 kilo of nourishment; had I given this quantity in six portions separated by 2 or 3 days, the loss would have been more than double.

COLLEN.

[For the American Bee Journal]

Wintering Bees.

In almost every bee-journal, English or German, we see arguments about the best mode of wintering our bees. We can raise honey in a good season, as much as any body, no trouble about that; but how to bring our pets through the winter safely, is what troubles us most. The bees of some of our friends die of dysentery, caused by bad honey, some on account of upward ventilation and some for the want of it, and as I see in the German *Bienenzeitung* especially a good many bees die for want of water.

Some of my neighbors and myself have been wintering our bees pretty successfully for several years. I have been waiting for some of my neighbors, more able than myself, to communicate their experience in wintering; but as extreme modesty, apparently, prevents them, I will with your permission, give my way of wintering and the result.

In the first place, I take good care that by the time of getting my bees ready for winter, all of the frames, as near as possible, have honey sealed or unsealed, in the upper part of the comb and that the lower part is empty or has brood in. I cut winter passages through all of my combs and prefer to winter a strong swarm to wintering a quart of bees. But I have wintered several times successfully less than a pint of bees in Langstroth's hives with ten frames of comb and without a partition board.

All frames with brood are put together, of course, and the unsealed honey as near the center as possible. I don't believe we are hurting our bees by overhauling them at any time of the year, even in winter, the weather permitting. The exchanging of places with the frames is often beneficial and may save the swarm.

After arranging all the frames in a proper manner, the brood as near the center of the brood chamber as possible, I cover them up with a woolen blanket which is lined with muslin. Small strips are layed under the blanket to allow the bees a passage over the top of the frames. The second cover is a straw mat lined with a double thickness of a coffee bag. The straw mat is of the size of the old fashioned honey board, completely covering the brood chamber. On top of the straw mat in front and behind, I lay two one inch strips and on these strips the cover of the hive. I use the Langstroth hive exclusively. The woolen blanket and the straw mat retain the necessary heat and keep the bees comfortable while at the same time they act as an absorber and the air passing directly over the mat dries up the moisture. We know that the old fashioned straw hive is the best hive for wintering and with my straw mat arrangement I have the principle of it.

I had not a square inch of mouldy comb in any one of my hives, no dysentery among my bees and I lost none. Without the second story on, the hive is easier uncovered and every one of us knows that the handier we keep our bees the oftener we look at them. This done with discretion is very beneficial.

The following will illustrate the quality of the straw mat as an absorber and the necessity of an air passage above the mat. Early in March when I wanted all the heat to be retained in my hives to promote breeding, I removed the strips from above the mats to let the cover rest flat on the same. The result was that the combs became mouldy in every one of my hives. A readjustment of the strips under the cover and the mould disappeared.

Would not my bees have dysentery if I had permitted the mould to grow, and would not in this case a good many of our brethren have attributed the cause of it to the poor quality of honey? I have, last spring, examined the bees of several of my neighbors, affected with dysentery and found invariably the combs and insides of the hives mouldy. I was speaking of some of my neighbors as able bee-keepers. One of the most prominent is friend Hill, in Mt. Healthy. His apiary is undoubtedly one of the best in the state of Ohio in regard to profit and pleasure both. He also winters out doors very successfully, lost no swarms last winter and his loss winter before was very small indeed. His way of wintering differs from mine but the principle is the same. The same is the case with another party, out door wintering is no trouble to him. I hope that they will tell their own story some of these days. In my own case I must state yet that I have double sides on my Langstroth hives which at least serves a great deal to break the cold winds.

Chas. F. Muth.

[For the American Bee Journal.]

"Sundry Items."

"Spring Feeding."—Although the results from one hive is no criterion to go by, still it may not be out of place to give its yield, and I hope yet to be able to report from a large number. I commenced feeding on three hives, early in March, but soon found that two were not gaining any strength. Upon examination found the queen in one a drone layer, the other barren, (both were old queens, and should have been replaced by young queens last fall). I stopped feeding them, but fed the other one regularly. As soon as all the combs were well covered with bees, I removed a comb of brood to one of the queenless stocks, supplying its place with empty comb, and in a few days removed three combs from queenless stocks, putting them between combs of brood in the hive I was feeding. Increasing it to eleven sections, and reducing queenless stocks to five sections, which was about this time supplied with a queen. The 30th of May the hive I was feeding was very full of bees, they being clustered on side walls which I removed, took off three sections of combs, put on sixteen boxes, shook off bees from combs removed, returning combs to hive I had taken them from. The result on hive fed was, that by reducing size of chamber and then putting on boxes, I had bees clustered in them at once, and building comb in twenty-four hours.

July 4, all the boxes were well filled with the exception of capping over of lower edge of outside comb in two or three boxes. I had 107½ lbs "prime clover honey." This would make the yield three pounds per day for thirty-five days. The weak colony, which was supplied with

four combs of brood and I think not less than twelve pounds of honey from hive fed, increased rapidly, so that I took a swarm from it, while the other queenless stock which received no more help than to supply it with a queen soon as possible, has given no swarm or honey. When boxes were removed from hive fed, I took off a swarm as there were too many bees. Last season I had a hive arranged with section boxes for trial. After waiting a long time for swarm to put in it, I took one off for it. It came off very dry soon after, and honey failed. So I had to feed to winter them. This spring they were queenless, and as boxes did not fit other hives, I have not used them. Next season by feeding, and adding combs as the bees will cover them, increasing size from seven to twelve or more sections, and when ready for boxes, reduce size of brood chamber to seven sections, moving them over against side of case. This will leave a space as large as brood chamber, which will be filled with boxes, then turn hive half way round, making space occupied with boxes the *front of the hive*, open entrance on that side, shake off bees from combs removed, using combs for swarms. By this arrangement I will get a large cluster of bees *at once in front end of hive*, and I am confident honey will be stored more rapidly. When the boxes are removed, brood chamber will be moved back to middle of bottom board and hive turned back to its former position.

"Wintering."—A correspondent of Novice's *Gleanings*, who tried out door wintering "without protection," writes in April number, that he had made up his mind decidedly, that in this climate out door without protection is very unsafe. Novice adds, We have been obliged to come to the same conclusion in regard to out door wintering. I think it due the readers of the Journal that Novice's *conclusion* should appear in its columns, after what he has written on this subject in former numbers.

"Introducing Queens."—Upon releasing a Milan queen to the bees, I was anxious to be sure that she be well received, so I removed a comb from the hive, and let the queen go out on it among the bees, and was at once satisfied all was right. I introduced a second Milan queen same way and others since. Being at Mr. Barclay's apiary when he was about releasing a queen, I suggested the same way, with like results. If one has a valuable queen I recommend this way of releasing, as should the bees pack on her, scrape them off into a basin of water, when the workers will scatter and the queen be recaged. I saved one this season this way. This plan of scraping a wad of bees into water was suggested to me by Mr. Barclay. I think it first-rate, as there is great danger of losing the queen in trying to *pull* off the bees.

J. E. Moore.

Rochester, Pa., Aug. 13, 1873.

[For the American Bee Journal.]

Out-door Wintering.

Article II.

In wintering bees out of doors we have always aimed to have all the stocks strong with plenty of honey and bee-bread. Each hive is allowed to remain upon its summer stand, which is four inches in height. We do not allow much upward ventilation—some hives that are a little weak, but healthy, *none* above. Strong hives, unbalanced in some particulars, for going into winter quarters, we allow a little upward ventilation through a small hole, covered by one or two thicknesses of blanket material.

The hive in winter rests down tightly on the bottom board.

The lower ventilation of each hive (which is through the entrance hole) is gaged in proportion to the strength of the colony and the age and condition of the bees and honey. But close observation and practical experience are necessary to the attainment of a knowledge of the proximate amount of lower ventilation needed in each particular case.

In addition to the foregoing we use a protection board the width of the front of the hive, which we lean up in front of the entrance hole, one end of which rests upon the ground while the other rests against the front of the hive two-thirds of the way up to the top of the brood chamber. At right angles to this we usually attach other boards (so as to fasten up the corners) which rest on the ground and against the hive in like manner to the first. Any kind of rough boards answer the purpose.

When the weather is calm and not too cold, or is suitable for the bees to fly out, the front protection board is removed.

We attach a great deal of importance to the idea that bees should never be disturbed so as to cause them to break up the cluster in freezing weather, and we govern ourselves accordingly.

We have never had occasion to feed in the fall, as the principal honey harvest here is during the fall months, continuing until frost, and there is usually very little uncapped honey in the hive when frost comes, unless the extractor has been used too late in the season, which we think has been done in many instances, to the great disadvantage of the bees as well as their owners. Any stimulation by way of feeding out of season should, if possible, be avoided. During winter, bees require sealed or capped honey in the hive, and so contiguous to them that its very existence there is a part of their reality and normal condition as a colony. Much damage is often done by feeding, but at proper times and under proper circumstances we are very much in favor of it. As it is natural for each variety of vegetable life to have its proper season for development, fruitage, and decay,

during which time there may be much done to add to, or diminish from the otherwise natural results, so the apiculturist may, at proper times, by judicious stimulation, benefit his bees, or, by trying to force nature against nature, do them serious injury.

From actual results we cannot claim, in our experience, any great advantage for the double-cased hives, over tight, single-cased ones. In our opinion, the fact merely that a colony of bees has one, two, or three walls on each side of it is of minor consideration in successful out-door-wintering.

We have never lost any bees which were managed in winter in accordance with the plan herein partially indicated, and never have had any of them to show signs of dysentery, but, on the other hand, to come out vigorous in the spring, ready to go to work.

It is necessarily the case that during flights in winter many bees chill and never reach home; but there is little doubt that many such left the hive under such unpropitious circumstances, because it was disease or death to remain longer in the hive, and nature, the "kindest mother of us all," thus secures to the remaining bees a healthy home.

In conclusion, upon this subject, we would say that it it is one that requires more thought than we have been able to give it, and we do not feel extremely confident that we have even stated all the *main causes* that have led to that uniform success which we have had.

Black Jack, Kansas. M. A. O'NEIL.

[For the American Bee Journal.]

Our Experience in the Bee Business.

We began keeping bees in its rudest form, that is in logs cut from the trees containing the bees. Moved them direct from the woods to our apiary. That was in the year 1847. The swarms we put into common box hives. We had good success for a time, getting as high as 168 pounds of white comb honey from some of our swarms. Had "luck" until about 1854, then we lost all the bees we had. And no wonder, for at that time we knew but precious little of the interior of a bee-hive. But you must not think we knew it at the time, for at that time we thought we were smart, (like most all beginners,) and knew about enough. For we knew there were two kinds of bees in a hive, drones and workers, for we had seen them. But as for a queen, who ever thought of such a thing in a bee-hive. But since, we have found out that there is an important bee in every swarm of bees, some call it a king and some a queen. But a king could not run domestic affairs so well, so it must be a queen. At any rate not having as many such bees as we had bee-hives, we did not have as many swarms as we thought, only hives instead of swarms. Well, we soon stocked up again, box hives of course. But we soon adopted the Langstroth hive, and have had bees ever since. Our success has been since then controled by the care given to the bees. For only one year in that time, twenty-six years, did the seasons fail to give a surplus of honey, that was the year '69. It was very wet and a total failure. Out of 201 swarms in the summer we lost fifty-two, during the year we lost 176, so we had only twenty-five to start with in 1870, increased them to eighty-four. Next year 1871 had seventy to start with increased to 128, got extracted honey, 15,000 pounds, comb honey a little over 1000 pounds. In spring of 1872 had about eighty swarms, increased to 126, got about 7,500 pounds honey, mostly extracted, in 1873 began with seventy-two swarms, got a little over 5,000 pounds extracted honey. Have taken good care of them this year. Increased them to 353 swarms. They are nearly all in a good wintering condition. We will take from heavy ones and give to light ones, and make all strong.

We winter in cellars, and find that when we take time to get all of the swarms ready for winter, and put them away as they should be, all works well. But we had a great deal of other business to see to, and have almost always neglected to take care of the bees, only just when we could rob them of their honey. But we are in shape now to give the bees and the bee business the necessary care. We keep our bees in two places, two and a half miles apart. In one place we have 160 acres of land and in the other 235 acres, all of which we intend to work for the interest of the bees, in cultivating such crops as will pay independent of the bees' and also pay in honey. In that way we make it pay well. We first got the Italian bees in the year 1862. We paid Mr. Langstroth $20 00 for a queen, express $2.75, cost us $22.75. She was a good one, and it was money well laid out. We have had the Italians and natives side by side for eleven years, and find the Italians to be superior to the natives in several respects. And in final results a great deal the best bee. That is, one with another they get by far the most honey. We have been weeding out the natives this year, so next year we hope to get entirely clear of them.

As we keep only pure Italians in one apiary, and raise queens in that apiary, we have found that to give the bees the necessary care, with fifty swarms of bees a man can make more ready money from them than from an eighty acre farm, for they work for nothing and board themselves; and the expense is a mere trifle compared with other pursuits, and profits of each. We have another good place to keep bees, and intend to stock that up also next year, and will make a thorough business of the bee business.

The market for honey is increasing from year to year, so we think there is no danger of overdoing the business. J. & I. CROWFOOT.

Hartford, Wis., Sept. 9, 1873.

[For the American Bee Journal.]

Mice Cleaning Combs.

The practice of giving combs, to be cleared of dead bees by mice, has been practised in frame for more than fifty years.

It is good only for those who own the old gums or boxes. As the owner of these immovable hives cannot take out the combs, if he wants to preserve some hives full of combs, he has to clean them, to prevent moulding, and mice can do that work for him.

But the cleanliness of this process is doubtful; wherever mice have access, they impregnate the things around with their special scent, which is far from being agreeable, besides they eat not only the dead bees, but the combs also.

There is, for us, owners of movable comb hives, a better way to clean our combs; it is to introduce them in a May colony, between two combs full of brood. The next day all dead bees are removed, and the comb is scented anew with the good odor of living bees.

CH. DADANT.

[For the American Bee Journal.]

Feeding Bees.

Last spring we had made up our mind to remove all the honey with the extractor from our hives, but as the honey gathered this year is of such a good quality we have concluded to risk it once more.

The readers of the JOURNAL will remember that my mode of mixing the syrup is about this: To six pounds of granulated sugar add five pints of water, boil five minutes. That is our experience for the past fifteen years. One of the best and most distinguished apiarians in the U. S. informed me last spring that he put about the same amount of water with his sugar as Mr. Root does. I inquired if it didn't crystalize, and his reply was no. Some time in May, I received a neucli hive, containing five (5) frames, of that gentleman and the way the granulated sugar rattled out of those combs, made me think that that man was not quite as observing as he might be. However, we think that four pints to six lbs. of sugar will do in Oct., if it is boiled 10 minutes.

We think the cheapest (and can't say but what it is the best) feeder in use, is the one Mr. Langstroth has spoken of, that is, he mentioned it to me, don't remember of his describing it in the JOURNAL. It is made of an oyster can or a tomato can, holding about a quart. Two combs are tied together at the largest end. One is put in the can for the bees to run down on, while the other is left outside for them to run up on. As there is no patent upon this of course it must be a good one. Our way of feeding bees is to give each stock in Sept. or Oct., enough to last them through the winter. Nursing and feeding bees in winter is without profit. We are of the opinion that bees will winter well throughout the northern States, but in those parts of the South where it has been so wet all summer we think they will winter poorly. One year ago (8 July, 1872.) we stated in these columns that it was our opinion that the loss of so many bees the previous winter, was owing to the poor quality of food gathered by the bees the season of '71. We are of that opinion still and we find hundreds who came to the same conclusion.

In those sections where the honey is poor, we advise the removal of it, and sugar syrup fed instead. This is the only sure way to save the bees.

Last season very little pollen was collected here, and the consequence was the bees left off breeding very early.

This season pollen is abundant, and at this time (Sept. 11,) my hives have nearly as much food as they did in the spring—or last of May, rather.

We shall expect them to commence breeding at the usual time next spring. Very few bees in these parts commenced breeding last spring, earlier than first of May, as the weather was so cold no pollen could be collected sooner than that time.

H. ALLEY.

Wenham, Mass., Sept. 11, 1873.

[For the American Bee Journal.]

Farmers Should be the Bee Keepers.

MR. EDITOR:—There are several reasons that present themselves to my mind, why the farmers should be the bee keepers; and the profits from the flowers, produced upon their farms be theirs; as well as the profits of fields of grain and grass. The fields are theirs and they are entitled to the products. The product of honey may be secured with much less expense and trouble in proportion to its value, than the other products of their fields. From 50 to 200 lbs. of honey may be secured annually, upon each hundred acre farm, on an average; worth from $16.00 to $60.00—and require but an outlay of $10.00 for several years;(i. e.) the cost of one hive and swarm of bees.

I have a swarm placed in my hive in 1867, for which I paid $5.00, from which I have taken in three years 480 lbs. of white clover honey in boxes, and in the seven seasons including its first year has averaged more than 100lbs. This, an ordinary season, I have taken from it 140 lbs., by August 2nd,—of course all white honey.

If we divide the cost of the hive and swarm ($10.00) into 1000 parts it will bring the actual cost of the honey at one cent per pound. But this is my best hive, the only one from which I have taken 200 lbs. of honey in one season my next best gave me 174 lbs. But it can hardly

be expected that farmers with only one or two hives of bees will seek to become experts in the management of bees and handle movable comb frames, raise queens, &c., &c.; nor is it necessary. The hive is constructed with either movable frames or bars. I have used both. The best hive of which I here speak is made with bars; and no trouble, but to put on the surplus boxes in their season and remove them when filled.

I have another hive from which I have this season taken 94 lbs. of surplus, all white clover honey; 234 lbs. from two colonies.

In many fields, I have no doubt but they would have done better, and in some not as well. This is but an ordinary field.

Any communication addressed to me upon the subject, at Albany, N. Y., will receive due attention.

JASPER HAZEN.

Albany, August 25, 1873.

P. S. If we consider a few facts, the product of 200 lbs. surplus by a non-swarmer need not surprise us.

1. No Surplus honey is stored by the swarmer, as a general rule, while the bees are making preparation for swarming. They cluster outside of the hive in idleness.

2. If a second swarm issues eight or ten days more are lost.

3. Sometimes third and even fourth swarms issue.

4. All this time is improved by the whole working force of the whole colony in the non-swarmer. The old colony and all the new swarms are the product of the old queen, and all the brood in the first swarm. With such a force instead of working in three or more hives, all operating in one hive and its surplus boxes, with no loss of time in preparation for swarming, I think 200 lbs., and even more may be secured in surplus.

J. H.

[For the American Bee Journal.]

To Novice.

DEAR FRIEND NOVICE—Do you think you have only *one* friend who understands your motives, and does not hesitate to say so through the JOURNAL? If you do, it is time you were undeceived; and I beg that I may be counted as a second, and I am sure that the third, fifth or twentieth could be found with very little trouble. How anyone who has read—with pleasure and profit—as I have, every article you have written for the JOURNAL, as they appeared, can accuse you of using the pages of the paper for your own benefit, is more than I can understand.

My pleasure in reading the JOURNAL, of late, has been very much lessened by the constant and unmerited attacks upon you—to whom all of us are indebted for so much useful information, so agreeably imparted. That you have hit some *hives* pretty hard is not your fault, but theirs; as your aim was evidently to teach true principles of bee-culture, and if the use of these hives was inconsistent with this end, you could do no less than you did. As to there being any room for profit in prices at which you sold your articles—and I believe there was and is very little—that is no one's business but your own, as you advertised in the *advertising* columns of the JOURNAL, and gave full directions for making them in the reading column; so that it was a matter of choice whether to make or purchase them.

DANIEL M. WORTHINGTON.

St. Denis, Md., Aug. 16, 1873.

[For the American Bee Journal.]

Small vs. Large Hives.

In an article on cheap hives, by D. L. Adair, in the *Annual of Bee-Culture* for 1872, also in an article read before the North American Bee-Keepers' Society by the same author, ideas are broached that many will ridicule. But I am fully prepared by actual experience to believe that he is in the main correct. In my nuclei hive of three combs, a queen will occupy only about such a proportion of the cells with brood and the remainder is occupied with pollen and honey; and in my standard hive with twelve combs of the same size the same queen will occupy the twelve combs in the same proportion. Now we increase the size of the hive to thirty-two combs in the New Idea form and the same queen will occupy twenty six of these combs just as fully as she did the three in the nuclei hive. This is a positive fact, no guess work about it.

Now the reader will readily see that if we are correct in the above, hives of 2000 cubic inches in the brooding apartment are not half large enough. And we are now positive that hives of 4000 inches in the brooding apartment, when in the right form, will produce three times the amount with the same queen that hives 2000 cubic inches in the brooding apartment will. The past season we had eighteen of the large twin hives, and four oblong or New Idea form of hives. We obtained all of our surplus except fifty pounds from said stocks, (1600 pounds in eight days,) and this fall when they had done gathering, we had three times the weight of honey in the large hives that we had in the same number of small or 2000 cubic inch hives. Yet the large hives had no better queens than the small ones had, and the large hives (with the exception of three that cast swarms) went into winter quarters with nearly three times the amount of bees that the small ones did. Remember this was in the same yard and with the same management as nearly as possible. Those three that cast swarms did so

after we calculated the swarming was done for the season, and consequently we were attending to our farming and letting the bees take care of themselves. We examined several of our small hives and found they were not filling up with honey, and we supposed of course the large ones were not doing much better, so did not examine them until after they commenced swarming for the want of room. We are fully and firmly convinced that we want no more small cheap hives, so much so that we have sold nearly all our small stocks to be delivered in the spring, and thus get rid of our small hives to parties that are afraid of our large ones.

It is quite a task to convince visitors that one queen and consequently one swarm fully occupies those large hives. By sale we are reducing our stock lower than we like, but we did not want to throw away our small hives.

E. GALLUP.

Orchard, Iowa, Feb. 1873.

[For the American Bee Journal.]

Headings.

JAMES HEDDON.

MR. EDITOR:—I keep the back numbers of my JOURNAL for reference, and have eleven unbound ones, at a time; now if it would not inconvenience you or your correspondents, I would like to see the writers name just below the "*heading*" as above.

When I look over the JOURNALS, and find an article upon the subject which I wish to practice upon I would like to see the writer's name without having to turn over one or more leaves.

I would say to "B," on page 63 Sept. No. of JOURNAL, that I agree with him as regards residence and date of correspondents, and would also like signature in full. Please give us small change for that "B," as we might want to write to you for some explanations.

We wrote to W. I. Davis, of Youngsville, Pa., for farther explanation concerning his wintering house, and got a perfectly satisfactory answer: together with a price list of Italian Queens. Now don't you believe we bit at the bait and was caught to the tune of seventy-five dollars; and like some soldiers we have heard of bettered our condition by being captured; for we found Mr. Davis the squarest dealer we ever dealt with, and his bees the best we ever had the good luck to purchase, and we have bought six Queens before of as many different *noted* breeders. We do not owe Mr. Davis any cash but we owe him a debt of gratitude that cannot be paid with lucre.

"LITTLE THINGS."

Yes; most of the experience you kindly relate, *is not* at all practical in *our* locality. Here is *our* advice according to our experience:

Supers.—Aim to get all the honey stored in supers and barrels possible, then work hard at extracting from the brood chamber to give the queen room to deposit eggs.

Extracting.—Never wait for the bees to seal up the combs, as it is needless labor to uncap them and wax thrown away in capping besides loosing half your crop.

Robbing.—When every thing else (wet grass and all) would fail, I have checked robbing promptly with camphor gum used as directed in back No. of JOURNAL. But then localities differ.

King Birds.—We live in a village, and there is a fine for shooting within the corporation, how shall we kill our king birds? again, localities are not alike.

Worms.—Don't use blocks with slots in them for catching worms, as you will be very apt to neglect them when they become worm nurseries. Keep strong stocks of Italian Bees and forget all about worms.

Combs.—Full combs will preserve themselves, if not put in a damp place like a cellar, if they are the honey will become thin. Empty ones can be preserved by hanging one inch apart in cellar or wintering house having a circulation of air between them.

Water.—Our bees won't drink at home and *never would.*

Spiders and Ants.—The bee-keeper's friends, "Will you walk into my parlor, said the Spider to the" *Miller.*

"Do you know where there are any Miller's eggs"? says *Ant Black* to *Ant Red.*

The above is *simply* our experience.

By the way Mr Editor we would not like to have you discourage the efforts of our witty friend Simeon Plicity. His articles, though they may not be particularly nutritious, are excellent seasoning to the general dish.

My Apicultural efforts for this season have met with success beyond my most sanguine expectations. Will send you report at the close of season.

Dowagiac, Mich., Sept. 6th, 1873.

[For the American Bee Journal.]

Extracted Honey, and the Proper Manner to Put it Up for Sale.

I have been advising my fellow bee-keepers as you may remember, to put up their best honey in one and two pound jars, a dozen jars in a (neat) box, and to sell it by the gross as the best means of introducing machine extracted honey, and in order to dispose of their product readily. I can sell in my own store three times the quantity of honey I produce to better advantage therefore don't care to wholesale it. However, in order to do my share in the introduction of machine extracted honey, I gave Aug. 25 (last) to I. T. Warren & Co., of this city, half a gross (six boxes) one pound jars honey to sell. Sept. 1 Warren sent me an order for one gross one pound honey and one gross two pound honey

I filled it promptly, as I did also another order for two gross one pound honey on Sept. 11 last. Other parties have sent me their orders since, but being too busy I have had no time to fill them, besides I do not wish to wholesale all of my own honey. My price is $42 a gross for one pound jars honey, and $80 a gross for two pound jars honey, this includes the boxes of course. My boxes are branded and my jars tinfoiled and labeled. Honey put up in the above style and sold at above prices brings about 20c a pound exclusive of the work of jarring and packing.

I will pay at Cincinnati depot 16c a pound for all choice white clover honey I can get, and if my brother bee-keepers will do their own work and bring their honey to market in a proper manner it will suit me all the better. My object is to introduce machine extracted honey, as it is not only the most prize-worthy, but also the most profitable to the bee-keeper. Comb honey is selling here at 15 to 35c according to the condition of the honey and the size of the box or frame. I would pay 30c a pound for first-class comb honey put up in small frames about five inches square.

As it may be of interest to some of our friends to know the names of some good firms in our city, whereat, eventually to dispose of their machine extracted honey, I may here name I. T. Warren & Co., and Reis Bros. & Co., both are large dealers in fancy groceries and canned fruits. Wholesale confectioners are also good hands to sell honey in good shape, while honey put up promiscuously can only be used by them at a low rate and for manufacturing purposes.

As bee-keepers are noted for their communicative propensity, let me tell you, Mr. Editor, that my bees averaged me this season over one hundred pounds per hive, all of which was collected between May 23 and June 28 and all gathered from white clover.

CHAS. F. MUTH.

Cincinnati, Ohio.

[For the American Bee Journal.]

Moth-Worm Ravages.—Bee-Hives for Fifty Cents.

On page 47, August number, Mr. Charles E. Widener observes what he terms a "strange freak," in some of his nucleus swarms. I observed the same *freak* in my own apiary. In July, I found bees cutting out whole circles of brood; meantime the young bees were struggling to get out of their cells, but could not. Upon examination I found they were securely fastened to their cells by a minute miller-worm, and such at the base of the cell. I also found brood uncapped in all stages of growth. A close examination of this also showed the presence of miller-worms by the body of the immature bee, being covered with the excrement of the miller-worm. As far as my experience goes, I never observed miller-worms work in the bottom of the cells between the brood; I have always found the worms on the surface of the brood.

The swarms infested were medium swarms. There was bees enough to cover the combs. As to how the miller deposited eggs, in whole sheets of comb, I have only one theory to advance; i. e., the miller did it herself. My full swarms were not afflicted in this manner.

We notice, with joy, that there is at last a genuine opposition in the hive business. Mr. Alley has got his "dander up" in dead earnest. We think, however, hives can be made still cheaper. We will undertake to furnish movable comb hives, such as we use, all ready to put bees into, for fifty cents; capacity of the hive 2,000 cubic inches, and warranted to give satisfaction. SCIENTIFIC.

Hartford, N. Y., Sept. 18, 1873.

[Translated from the Bienenzeitung.]

Intensive Bee-Keeping.

Truly, the advance in cattle breeding and cultivating the ground, in these latter times, dates from the day when we began to feed plentifully and manure heavily. I have practiced these principles of intensive culture with my bees for some years passed, and it has pleased me so much that I will never forsake it. I give each stock, from the first of April to the time of the blossoming of the buckwheat, (when the bees, owing to the cold, are unable to fly or the yield of honey poor), every eight days, at one time, about two pounds of sugar dissolved in water. I have fed so far this year, to each swarm, fourteen pounds of sugar. It already shows that this has been advantageous. I wintered the same number of swarms as my neighbor. He has now twenty-five stocks, which he himself declares, after he had fed somewhat lightly, that they have not altogether three pounds of honey. They are so weak in numbers that a division of the swarm is not to be thought of this summer. My hives are full of brood, while those of my neighbor's have very little.

I gave each stock sugar to the amount of 2thlr. 24sqr. I have received ten pounds of honey, worth about 2thlr., besides I made some strong, artificial swarms, which are also worth 2thlr. I thus produced from 2thlrn. and 24sqr., 4thlrn. Also, theoretically, it may be shown how profitable this strong feeding must be. The proffered food will, in part, be consumed, and in part used for the brood. That which was consumed is not lost, even in the present year yielding its profit. The sugar costs 6sqr., the same as honey, but one pound of sugar gives more than one pound of honey. No one will deny that the honey consumed in feeding the brood, has not been used to advantage.

The small loss, caused by the restlessness following strong feeding, I do not take into account.

Beyond this mere material profit, the apiarian derives no little pleasure from the fact that he is in the possession of stocks that are not standing still, but making a steady forward progress. I consider poor feeding as the chief cause of failure in bee-keeping, as now carried on by us; in this respect bee-culture is fifteen years behind the progress made in scientific agriculture. DR. DONHOFF.

Orsoy, June 12, 1873.

P. S.—A pastor in the neighborhood of Wiesbaden asks me for a remedy to prevent his swarms from lighting on his neighbor's trees. He asks whether, if a number of dead bees were strung together, so that they would present the appearance of a swarm, and when placed in a garden, the swarm would light on them?

My advice to him was, to place a spare queen in a wire cage, and hang it before the stock about to swarm, and perhaps the swarm would light on it. DR. DONHOFF.

[For the American Bee Journal.]

The Season of 1873.

This has been the poorest season for bees, in this locality, we have had for a number of years. It was cold until in June, then we had about two weeks of good honey weather, after that it was too wet until after white clover was gone. Basswood did not amount to anything, as not one tree in a hundred blossomed at all; and since harvest the grasshoppers have eaten up almost everything in the shape of honey-yielding flowers. I sowed a piece of buckwheat for my bees, and that, and a few small pieces sowed by the neighbors are about all my bees have to work on.

I have one hundred swarms of Italians, all in good condition for winter. Some of them will yield nearly 100 pounds of surplus, whilst some of the late swarms will not gather more than it will take to winter them. I think they will average thirty pounds of surplus each.

West Lodi, Ohio. JAMES BOLIN.

[For the American Bee Journal.]

Bee-Keepers' Call.

The Mississippi State Fair will open in Jackson, October 13, and continue one week. We desire to organize a Bee-Keepers' Association, and to discuss questions of interest to those engaged in bee-culture. A general invitation is given, to send hives, extractors, and other improvements pertaining to bee-culture, by those who have them for sale. Direct all samples to Col. J. L. Power, Jackson, Miss.

Dry Grove, Miss. W. F. STANDEFER.

Reports, Experiences, and Opinions.

G. W. Zimmerman, Napoleon, Ohio, writes September 8, 1873:

Bees have done well here this season. I commenced with thirty stocks in the spring, sold six, and have now sixty-five colonies and thirty nucleuses. I have 100 pounds of comb honey, and 2,500 machine extracted.

H. Faul, Council Bluffs, Iowa, writes September 13, 1873:

Bees have not done very well here this season. Golden rod bloomed the 10th of August, but has produced no honey up to date. Three years ago I had a swarm which, on the 6th of September, filled its hive and two 10-pound boxes from the golden rod. I would like to hear from readers of the A. B. J. the cause of such failure this season.

P. W. McFatridge, Carthage, Ind., writes September 13, 1873:

I lost, last winter, 64 colonies of bees out of 108; bad honey I think was the cause. I have increased the balance to 70 colonies, and have 4,000 pounds of surplus honey, nearly all machine extracted. I use the two-story Langstroth hive. I wintered my bees in a second story, the room is about 16x18 inside, double walls 14 inches thick, filled with saw dust. The room is perfectly dark, and well-ventilated through floor and ceiling.

R. Dart, Ripon, Wis., writes Sept. 1, 1873:

I have to report to you the third poor year in succession, in this part of our State, for bees. Still, the few bee-keepers of us left are not discouraged yet, although we may have to import bees here from other States. I came to this State in 1840; only a year or two before that, the first swarms were seen passing over to the West by the Indians. My first start in bees was found in the woods by myself, when quite a small boy, in those early days. The honey-bee is too nearly connected with my early life in this country, when very new, to have me give them up so easily. While I live I shall keep them; their home shall be—in the summer—the coolest, pleasantest place in my yard, and, in the winter, my large, dry cellar. My bees came out of winter quarters last spring in fine condition, but the spring was cold and late, and the swarms were sadly reduced at the opening of summer. My losses were eleven from fifty-one. June, and part of July, were wet and we lost our white clover; part of July and August we were burnt up with drouth, but thanks to some early buckwheat, our swarms are going into winter quarters strong.

THERE are six substances made by the bees in a hive, viz: honey, propolis, wax, bee bread, royal jelly and cream. HUBER.

Patents Granted during the Year 1872, for Bee-Hives, Etc.

Invention or Discovery	Name of Patentee.	No.	Date.	Monthly Volume.		Official Gazette.	
				Spec.	Drg.	Vol.	Page.
Bee-feeder	E. J. Peck	126,229	Apr. 30, 1872	.....	.....	1	418
Bee-hive	C. C. Aldrich	125,427	Apr. 9, "	.....	.....	1	339
"	H. Alley	128,005	June 18, "	.....	.....	1	616
"	W. B. Arndt	132,787	Nov. 5, "	67	21,22	2	532
"	D. J. Arnold	131,589	Sept. 24, "	594	188	2	373
"	C. W. Banks	131,730	Oct. 1, "	1	1	2	397
"	C. Beard	122,697	Jan. 16, "	.....	.....	1	53
"	J. M. Beebe	130,101	Aug. 6, "	3	1	2	201
"	P. Brown	131,247	Sept. 10, "	254	84	2	330
"	B. F. Bucklin	122,990	Jan. 23, "	.....	.....	1	79
"	A. Canniff	132,052	Oct. 8, "	293	95	2	429
"	W. R. Clark	133,355	Nov. 26, "	591	193	2	601
"	W. F. Cunningham	129,464	July 16, "	266	81	2	130
"	S. Fink	123,470	Feb. 6, "	.....	.....	1	131
"	J. W. Gladding	122,598	Jan. 9, "	.....	.....	1	37
"	F. Grabbe	131,610	Sept. 24, "	609	193	2	374
"	S. V. Greer	127,479	June 4, "	.....	.....	1	559
"	A. H. Hart	128,619	July 2, "	133	48	2	19
"	S. O. Higgason	126,055	Apr. 23, "	.....	.....	1	393
"	G. F. Hixson	131,613	Sept. 24, "	611	194	2	374
"	J. & W. H. Horsman	130,052	July 30, "	816	252	2	189
"	P. & A. Hurst	128,883	July 9, "	364	126	2	48
"	C. R. Isham	123,104	Jan. 30, "	.....	.....	1	102
"	H. A. King	131,168	Sept. 10, "	188	62	2	325
"	H. A. King	124,962	Mar. 26, "	.....	.....	1	289
"	D. Latchaw	123,632	Feb. 13, "	.....	.....	1	151
"	J. Longgrear & J. E Clark	130,511	Aug. 13, "	382	125	2	239
"	S. D. McLean	127,498	June 4, "	.....	.....	1	560
"	J. E. Moore	122,924	Jan. 23, "	.....	.....	1	76
"	A. R. Moulton	131,296	Sept 10, "	296	98	2	333
"	W. T. Mosher	130,932	Aug. 27, "	763	252	2	286
"	E. F. Mulkey & J. Case	130,933	Aug. 27, "	764	252	2	286
"	C. S Newsom	125,837	Apr. 16, "	.....	.....	1	372
"	S. E. Paine and W. Kerr	123,724	Feb. 13, "	.....	.....	1	156
"	P. O. Petersen	126,739	May 14, "	.....	.....	1	479
"	C. H Potter	127,513	June 4, "	.....	.....	1	561
"	W. H. Roberts	128,070	June 18, "	.....	.....	1	618
"	S. Rogers and A. J. Mason	131,628	Sept. 24, "	620	198	2	375
"	A. I. Root and M. Andrews	128,072	June 18, "	.....	.....	1	618
"	H. Scovell and J. C. Banker	131,632	Sept. 24, "	624	199	2	375
"	M. B. Shaw	127,991	June 18, "	.....	.....	1	615
"	H. Staggs	122,542	Jan. 9, "	.....	.....	1	35
"	J. G. Staunton	133,128	Nov. 19, "	381	123	2	574
"	J. B. Staunton	127,281	May 28, "	.....	.....	1	537
"	J. C. White	123,654	Feb. 13, "	.....	.....	1	152
"	J. Williams	126,605	May 7, "	.....	.....	1	457
"	H. K. Wilson	125,776	Apr. 16, "	.....	.....	1	369
Bee-hive, Comb-frame for	W. Kenyon	123,483	Feb. 6, "	.....	.....	1	132
Honey comb, Device for making artificial	J. Williams	134,411	Dec. 31, "	843	282	2	734

THE AMERICAN BEE JOURNAL.

Chicago, October, 1873.

MR. R. M. WIDDINGTON is respectfully informed that if he wishes to bring the article he has for sale before the bee-keeping public, he must advertise it in that portion of the JOURNAL which is devoted to such purposes. If we admitted communications offering bee-requisites for sale, and commending them, there would soon be little room in our columns for anything else, and besides, we should get no revenue from advertisements, which would be a great and ruinous calamity.

That Sting.

Our thanks are due, and are hereby tendered to all and sundry who have expressed kindly sympathy, and proffered effectual antidotes. We don't expect to be stung any more in the face or neck,—not if we know it.—and as for the rest of our person, we are quite indifferent about its safety.

Some of our friends have rallied us with jibe and joke. All right. It may be a laughing matter now, but it wasn't at the time of it. We have had our share of experiences that have left painful memories, and, among the physical ones, that bee-sting holds the first place.

We hardly know what to say to those of our friends who have raked up stories of serious and fatal bee-stings,—but we will say this much, *quantum suff.* Do not send any more, unless you want to frighten us, not only out of the bee business, but out of our wits. And please excuse us, if we consign most of them to the waste paper basket.

Live Bees at Fairs.

A brother bee-keeper, now at Elbon, suggests that we say something Editorially in reference to the practice of bringing hives of bees to State and other Fairs, and letting them loose among the visitors. He says that on a recent occasion of this kind, where he was present, there were three stocks of bees opened out very much to the annoyance of thousands of people. He does not know if any one was stung, but the bees were buzzing about in all directions, and especially hovered around the refreshment stands, alighting in large numbers upon the watermelons and other fruits, and attacking the candies and confectionery.

We entirely agree with our friend. There is no necessity for subjecting visitors at Fairs to this insect annoyance. The day is gone by for money-making by means of bee-charming and other styles of apiarian charlatanry. It is pretty generally understood, that bees can be handled by taking certain precautions. The person who has not become aware of this fact, must live in some benighted region where there are neither newspapers nor bees, and is not likely to be converted into an apiarian by such exhibitions. The merits of a hive can be shown sufficiently without having live bees in it. So many people are nervous with bees buzzing around them that a due regard to the rights of others would seem to dictate avoidance of this thing. If it is wished to show the public the interior economy of the hive, with queen, worker, drone and brood, this can be done with a unicomb hive, having glass sides, to much better advantage than by opening out an ordinary hive.

Since our terrible sting, chronicled in these columns, we have been quite inclined to restrict bees from power to injure, as much as is consistent with honey-gathering. We don't see that they have any particular call to attend Fairs. They are better at home. Let them, as the good book says, study to be quiet and mind their own business, going abroad only when duty calls. A word to the wise is sufficient. There are ways enough of giving publicity to bee-wares, without resorting to the method under consideration. We wonder that before now some unlucky accident has not happened, such as might excite public prejudice against bee-keeping and bee-keepers. Lest it should, it is well to leave the honey-workers at home, when the rest of the family go holiday hunting.

A WEAK swarm will weigh from one to two pounds; a middling one from three to four pounds; a good one about five pounds, and an excellent one from six to eight pounds.

HUISH.

Robert O'Conner.

Mr. Robert O'Conner, well-known to many of the subscribers of the A. B. Journal, who, during the past few years, visited Washington, D. C., died on the 17th of August, at San Barnadino, Cal., whither last January he went in the vain hope that the salubrious climate of that locality would restore his shattered health. His hopes were vain. Mr. O'Conner fell just when starting out on what appeared to be a most promising career as an apiarian. Possessing a well-disciplined and richly stored mind, united with great mechanical genius, his friends hoped much from his enthusiasm in bee-culture. His inventions and suggestions were rich indications of what he would have accomplished in this particular and interesting branch of industry, had he been spared to carry out his well-arranged plans for giving his undivided attention to bee-culture. But Providence willed otherwise. Away from family and friends, a stranger in a strange land, his profound knowledge of bee-culture soon gained him warm and sympathizing friends. The pain and depression caused by the inroads of his disease, neither dampened his ardor nor lessened his interest in bee-culture. One of the last of his acts on earth was to send to friends in the East a model of various improvements he had, during the past summer, invented in the structure of the hive. In him bee-culture has lost a warm and unbiased advocate, the A. B. Journal an ardent supporter, and his acquaintances a kind and trusted friend.

George S. Wagner.

[For the American Bee Journal.]

Report of Apiary.

I had May 23—the real opening of the honey season—eighty-nine colonies of bees of all grades, some fine, some fair, and some small. You will see by this that I do not take brood from a good stock to build up a poor one; but let each stock stand on its own merits, giving it, of course, all necessary care—without resorting, however, to what is termed stimulating feed. In this statement I shall not give my reasons for not equalizing, as termed, or stimulating, as generally practiced. No one will presume that I do not do what I think the most advisable, as I am not an enthusiast, and never try experiments for experiments' sake. My management is old, and mainly the slow accumulation of facts gained from others, and cheaply woven into a plan so unlike others as really to be quite my own.

As above stated, I had, January 1, eighty-nine colonies. These were increased from June 10 to twenty—on a plan all my own, which I call the "Bingham plan." I will give my plan of increase, which will be just as important to those using different hives and the extractor.

When my first natural swarm issues, the queen is caged and returned to the hive, when, of course, the bees soon return; the cover of the hive is now removed and I begin the making of artificial swarms—selecting medium stocks for the purpose only. A hive entirely empty is set in the place of a fair-sized colony, and all the bees of said colony shook into it. The brood and combs, now beeless, are set on the hive having the swarm that issued and was returned. This course is continued until as many hives are piled one above the other as said prime swarm can thinly cover. You will understand that no bottom-boards or covers are used in the pile, except the prime swarm at the bottom, which stands on its *own bottom*, and the last or top hive has on its cover, or a mat as desired. In this way my pile varies from seven to ten hives, as the size of said prime swarm may vary.

"The Bingham Pile," as I shall presume to call it, is allowed to stand for a few hours, if in the morning; or over night, if formed late in the afternoon, until the bees are evenly distributed through all the combs. The next move in order is the removing of said pile, each hive of which is to be put where it is designed to stand the remainder of the season. The moving is to be done carefully and without smoke, as great care must be taken not to frighten the bees so as to disturb their even distribution in the various hives.

As we now have nine queenless hives, containing bees ready to work in every department of commune labor, we can do something for them all; that will be what so many have written about, namely: "improving the breed." Our prime swarm has presumedly the best queen in the ranch, and her hive has lots of queen cells in various stages of development; therefore I give each queenless hive a cell, sealed if I have it, or half done, or nicely started, as the case may be, but give them all a cell—as all those cells that have been shook much will not mature queens. Having removed all the cells, said best queen is uncaged and allowed her own way. If the season continues she will be ready to work over in about four weeks, at which time she will be likely to to swarm.

Peace now reigns; the bees have all had their swarm out, and are ready for work; all of which, however, is in their domestic capacity—that is, combs are to be made in empty hives, and brood and queen hatched in those having

combs. I use boxes, and my bees stored over 6,000 pounds of honey in them this season, which is all sold. I now have 181 perfect colonies, 92 of which have made their own combs; each card can be turned end for end, and the hive closed up.

T. F. BINGHAM.

Allegan, Mich., Sept. 22, 1873.

[For the American Bee Journal.]

Chips from Sweet Home.

As we receive the JOURNAL and read its contents, we mark with a blue lead-pencil all new ideas. I take three bee journals. "Novice's" gleanings are pretty thoroughly marked. This has been a poor honey season in this locality. Owing to the drouth white clover failed; then, just as the Linn came in bloom it turned cold and wet, and continued so till Linn honey was gone. Since July 7 we have had no rain, but one shower, up to the present writing, (September 11), over two months; this last drouth has cut short our fall pasturage which usually continues till frost.

RAISING QUEENS.

We, as usual, have been experimenting, and think we too have learned some things and will try to help, whether we do or not. When examining our hives we find which has the most good qualities. As for color of queen we care but little, but we wish her to be *pure*, prolific and peaceable. We make a new colony, giving the queen and a sufficient number of bees to it, which we leave in the place of the old one; this plan is the nearest to natural swarming. The old stand we move to a new location, being careful not to rob the parent hive of too many bees, as they have all the brood to keep warm and nurse. We never divide, unless strong enough to make two. On the ninth day we cut out all queen cells but one. A pen-knife is the best for this purpose; be careful to not chill or sun-burn them. When two or more are so closely connected that there is not space to cut between, we put such clusters in one edge of the nursery, and by close watching we usually get the first out before she has time to kill the others. "Novice," in his *Gleanings*, says that cutting in a cell does not affect the young queen if she be developed sufficiently. A Langstroth frame will make thirty-two cages by cutting the horizontal pieces thin and full length, the upright pieces ½ inch thick and 1¼ inches wide. Linn is the best as it does not split easy. Cover one side with wire cloth, and on the opposite put tin doors, 1⅞ by 2 inches; fasten with small wire staples, driving them in two doors at once, which economizes the room; punch small holes for them; to fasten down take a piece of wire, bend at right angles and drive in. The cells can be pinned in the cages, also a small piece of sponge saturated with honey. We formerly thought it best to not introduce a queen till she was three or four days old, as it kept the hive a less length of time without a laying queen; but we now, for *safety*, introduce them as *young as possible*, and have much better success. We think it unnecessary in such cases to daub with honey, royal jelly or other scents We kept a laying queen in the hive with the nursery, but found too many dead queens. Since then we made a hive on purpose, by putting in two thin division-boards, so as to have room on each side for two frames; these we can use for fertilizing, and find it well to keep in reserve laying queens. One of these has an entrance behind, the other at the side; the centre has room for the nursery and four frames, and the entrance at the front. In this we raise queen cells, by giving them cards from our *best* hive, and in scarcity of honey a lot of choice drones; being queenless they will not destroy them. We are trying to winter reserve queens in these neuclei. Next year we think of trying our nursery, laid on top of the frames, as per Novice A few days after introducing a queen we look for her and make a note in our bee-register, "saw queen," "laying," "missing," as the case may be; if the latter we give them a card of brood from a choice queen, and if the young queen is gone they will let us know, when we next examine, by having choice queen cells for our nursery.

Mr. Editor, we think you done just right in rutting in Simeon Plicity's article on "Simplicity bees," etc.; for "a joke, now and then, is pelished by the wisest men."

We hope Adam Grimm will tell us about his bee-feeder, smoker, getting bees out of boxes, introducing queens, etc.

W. J. Ronald's article on wintering bees is just such as we have found, by general inquiry, to be a preventative of that dreaded bee-disease. His second requirement, "The bees should be put into winter quarters *early*, or on the first cold day," is one which has saved many bees that we know of.

We keep our bee journals bound, so as to have them for ready reference, and find them as valuable as any bee-books.

SAMSON'S LION.

The Editor has rightly concluded, that the skull was too small, but gives "a better explanation," which is as unlikely as R. M. Argo's explanation. "In a secluded spot among the grapevines," would be a poor, damp place "to deprive the bones and skin of their moisture by the heat of the sun," before decomposition would set in. Judges 14:8: "There was a swarm of bees and honey in the *carcass* of the lion." Webster defines carcass: The *dead body* of an animal; a corpse. Now if all the flesh and entrails were gone the *dead body* would not be there. Why should we try to believe Samson's

lion story; water coming out of a dry jaw-bone, any sooner than we would the stories of Mahommed cutting the moon in two, or that a stream of water came from between his fingers?

We are now getting our bees ready to try another winter; shall follow out W. J. Ronald's directions.

D. D. Palmer.

Eliza, Mercer Co., Ill., Sept. 11, 1873.

[For the American Bee Journal.]

Adair. (Reply to)

Our friend, Mr. Adair, in reply to our answer on the importation of bees, says that his illchosen term indiscriminate," applies only to large importations. Why large importations of bees would be more indiscriminate than small ones, I am unable to comprehend.

The queens imported into this country were at first mostly from Germany; then from Switzerland; then from Syrol and Italy. As the importers knew neither the bees nor the breeders, it seems to me that these small importations were more "indiscriminate" than a large one from the best known districts of Italy.

Mr. Adair says that he is not yet ready to discuss the evils of in and in breeding on bees; let us wait until he is ready.

To prove that the importation of queens can be injurious, Mr. A. shows that it is through the importation of bees to America, that we have imported bee-moth and foul-brood. It is true that if we had never imported bees in this country, neither bee-moth nor foul-brood would have made their appearance, since bees did not exist here before the discovery of America.

The denouncement of the ravages of the bee-moth, is of no avail, since every true bee-keeper knows that it has never "killed" a colony of bees. As to foul-brood, the European apiarians claim that this disease was introduced in their apiaries by Cuba honey given as food to the bees.

Mr. A. insinuates that perhaps what is called the bee-cholera of the past two years (if such a thing exists,) came from the importation of Italian bees.

He knows, however, as well as I do, that such a disease has never existed in Europe. How is it possible to bring a disease from a country where it has never existed.

He speaks at length on the awful misfortune of importing from Europe such insects as melve, braula ceeca, phora incrassata, sitaris, &c, &c., &c.; but the truth is that these parasites are very rare in Europe, and that not even the two most dreadful of these "braula ceeca and melve" have ever been known to destroy a single stock; furthermore, it is questionable whether they have ever killed a single bee.—Much ado about nothing.

Some bee-keepers may think that I am grinding my ax. But my ax is sharp and does not need grinding. Every year I have more orders for bees than I can fill, and I have to refuse orders for imported queens and often to refund the money. Besides we, (my son and myself) have never asked one cent for the publication of our old or "*new*" ideas. For instance every year we have sent Mr. Adair some articles for his Annals, and we have never taken advantage of his offer to insert out advertisements in his pamphlet. The past month, Mr. Adair wrote to my son asking him for two articles, for the Annals of 1873, adding that one might be—"on the Italian bee, if you desire"—and our ax needs so little grinding that we did not improve the opportunity, and my son announced to Mr. Adair that he would send him two articles entitled: "Bee Culture in 1976," and "Historical notice on Bee Culture in France."

Friend Novice will see, by the above, that if we are in a combat, against Mr. Adair, on the stage, we are still friends behind the curtain.

Mr. Adair had the right to criticise our importations, as well as we had the right to show that his ideas on Italian bees are different from what they were two or three years ago when he advertised Italian bees for sale. He has reported a gossip on our business, we have reported one on his: we are quit.

Ch. Dadant,

Hamilton Ill. Sept. 10, 1873.

[For the American Bee Journal.]

Sending Queens by Mail.

In sending queens by mail, I find that a piece of candy and a piece of sponge, moistened with water, answer as well as honey. I prefer the large, round, flat mottoes, as they are easily fastened in the boxes, so that they cannot move about and hurt the queens. I have sent a number of queens in this way, and have not lost a single one. I have kept bees for weeks on candy, in the cellar in the winter, and they done well on it; and I can see no reason why they should not do equally as well on it while passing through the mails. James Bolin.

West Lodi, Ohio,

Honey Markets.

CHICAGO.

Choice white comb honey, 28@30c; fair to good, 24@28c.

Extracted, choice white, 14@16c; fair to good, 10@12c. Strained, 8@10c.

CALIFORNIA.

Quotations from Stearns & Smith, 423 Front street, between Washington and Clay, San Francisco, Cal.:

Strained, choice orange blossom honey, from Los Angelos, in 5-gallon cans, 15@16c.

Valley honey, gathered from manna or honey dew, 12@14c.